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10/709,015	04/07/2004	Matthew J. Banet	A-0004	3014

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EXAMINER

MALLARI, PATRICIA C

ART UNIT	PAPER NUMBER
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3735

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/709,015

Applicant(s)

BANET ET AL.

Examiner

Patricia C. Mallari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-7,10-19 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,10-19,21 and 23-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/27/06
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Election/Restrictions***

Newly submitted claim 22 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claim 22 is directed to a blood pressure monitoring device that determines blood pressure information based on the output of an electrical impedance sensor and an optical module. The originally filed claims are directed to a blood pressure measuring device that determines blood pressure information based on the output of a pressure sensor and an optical module.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 22 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-7, 17-19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,649,543 to Hosaka et al. in view of US Patent No. 6,616,613 to Goodman, and further in view of US Patent No. 6,443,906 to Ting et al. Hosaka teaches a blood pressure monitoring device comprising a first module

configured to generate a first time-dependent signal, an optical module configured to generate a second time-dependent signal, a microprocessor configured to receive the first and second signals, determine a time difference between the signals, and determine blood pressure information from the time difference, and an external output connector 12 (figs. 1, 4, 5, and 9; col. 7, line 54-col. 9, line 30 of Hosaka). Hosaka fails to describe the details of the photoelectric sensor of the optical module, the details of the external output connector, or the details as to housing.

However, Goodman teaches a photoelectric pulse wave sensor that employs a light emitting diode and photodiode (col. 9, lines 57-66 of Goodman). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the light emitting diode and photodiode of Goodman as the photoelectric sensor of Hosaka, since the Hosaka teaches using a photoelectric sensor to detect a pulse wave, and Goodman discloses a light emitting diode and a photodiode as appropriate such photoelectric sensor in a blood pressure monitoring device. Hosaka, as modified by Goodman lacks details as to the external output connector and the housing.

However, Ting teaches a blood pressure monitoring device wherein a housing configured to be worn on a user's body comprises a microprocessor for determining blood pressure and an external output connector in the form of a short-range wireless transmitter (figs. 5, 8 col. 8, lines 8-17; col. 9, lines 35-44; col. 9, line 59-col. 10, line 11 of Ting). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the housing of Ting as that of Hosaka in view of Goodman, since the combined references teach using a microprocessor and external output

connector, and Ting describes an appropriate such housing for a microprocessor and that a short range wireless transmitter is an appropriate such external output connector for a blood pressure measuring device.

Regarding claims 4 and 5, the optical source comprises a light emitting diode and the optical detector comprises a photodiode (col. 9, lines 57-66 of Goodman).

Regarding claims 6 and 7, the optical module may be housed in a component adapted to be mounted on a user's finger (col. 13, lines 3-14 of Goodman). With further regard to claim 7, the component is an annular ring (fig. 4 of Goodman).

Regarding claims 11 and 12, an external, secondary wireless component is in the form of a short-range wireless receiver (col. 9, lines 36-44; col. 9, line 59-col. 10, line 11 of Ting), wherein a short range wireless receiver must inherently be included with the computer or printer if the device uses a Bluetooth ® device for wireless connection to download data to a personal computer or printer

Regarding claim 17, the first signal may be a pressure waveform (col. 7, lines 64-67 of Hosaka).

Regarding claim 18, the second signal is a waveform derived from an optical sensor (col. 8, lines 1-9 of Hosaka).

Regarding claim 19, the microprocessor comprises computer readable code that processes both the signals to determine blood pressure (col. 8, line 19-col. 9, line 30 of Hosaka).

Regarding claim 23, a patch may attach the first and optical modules to the patient instead of the annular ring (col. 13, lines 50-58 of Goodman).

Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka in view of Goodman and Ting, as applied to claims 1, 4-7, 11, 12, 17-19, and 23 above, and further in view of US Patent Application Publication 2001/0047125 to Quay. Suda, as modified teaches using Bluetooth® devices as the short range wireless transmitter and receiver. However, Quay shows that either Bluetooth® or 802.11 protocols may be used for short-range wireless data communication (abstract; paragraphs 24 and 46 of Quay). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a radio-frequency transmitter and receiver operating 802.11 protocol instead of the Bluetooth ® transmitter and receiver in the device of Hosaka, as modified, since Quay shows the two types of protocol to be functionally equivalent.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka, in view of Goodman and Ting, as applied to claims 1, 4-7, 11, 12, 17-19, and 23 above, and further in view of US Patent Application Publication 2002/0173704 to Schulze et al. Suda, as modified teaches using Bluetooth® devices as the wireless transmitter and receiver. However, Schulze teaches that CDMA or IEEE 80211 a, b, g, etc. wireless protocol may be used in place of Bluetooth ® (paragraph 15 of Schulze). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use CDMA or 802.11 wireless protocol in place of the Bluetooth ® device of

Hosaka, as modified, since Schulze teaches all of these wireless protocols to be functionally equivalent.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka in view of Goodman and Ting, as applied to claims 1, 4-7, 11, 12, 17-19, and 23 above, and further in view of US Patent No. 6,814,705 to Kawaguchi et al. Hosaka, as modified, teaches using a pulse pressure sensor and pulse wave detector to obtain the first time-dependent signal, but fails to describe the sensor and detector in detail. However, Kawaguchi teaches a pulse wave sensor, wherein the pulse wave sensor may be a thin-film pressure sensor (col. 11, lines 5-12 of Kawaguchi). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a thin-film pressure sensor as the pulse pressure sensor/pulse wave detector of Hosaka, as modified, since the combined references teach using a pulse wave detector, and Kawaguchi teaches a thin film pressure sensor as an appropriate such pulse wave detector.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,576,952 to Stutman et al. in view of US Patent No. 5,649,543 to Hosaka et al. Stutman teaches a blood pressure monitoring device comprising sensors 320 for collecting blood pressure data from a patient, a microprocessor, a location determining component 325 that determines location information of the monitoring device, and a short-range wireless transmitter that transmits the blood pressure and location

information to a remote computer (col.4, line 32-col. 5, line 39 of Stutman). Stutman is silent as to the details of obtaining blood pressure information from the user.

However, Hosaka teaches a blood pressure monitoring device comprising a first module configured to generate a first time-dependent signal, wherein the first signal may be a pressure waveform, an optical module configured to generate a second time-dependent signal, a microprocessor configured to receive the first and second signals, determine a time difference between the signals, and determine blood pressure information from the time difference, and an external output connector 12 (figs. 1, 4, 5, and 9; col. 7, line 54-col. 9, line 30 of Hosaka). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the blood pressure monitoring device of Hosaka as the blood pressure sensors in the device of Stutman, since Stutman teaches using sensors to collect blood pressure data from a patient, and Hosaka teaches appropriate such sensors and a microprocessor for doing so.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,840,904 to Goldberg and further in view of US Patent No. 5,316,008 to Suga et al. Goldberg teaches a patient monitoring system comprising a blood pressure monitoring device 100, 104 (fig. 2; col. 4, line 50-col. 5, line 9 of Goldberg) and a short range wireless transmitter 110 that transmits the blood pressure information to an external device. A wireless network 202 receives the blood pressure information from the external device. An internet based system comprises gateway software that receives information from the wireless network, wherein the server must inherently have

some type of software designed to receive incoming information. The server 302a or host computer system comprises a database for storing the information and a website displays the information (col. 5, line 62-col. 6, line 31 of Goldberg), wherein the user of "web server" indicates the presence of a website, since web servers serve files that for web pages to web users. Goldberg uses a blood pressure cuff sensor.

However, Hosaka teaches a blood pressure monitoring device comprising a first module configured to generate a first time-dependent signal, wherein the first signal may be a pressure waveform, an optical module configured to generate a second time-dependent signal, a microprocessor configured to receive the first and second signals, determine a time difference between the signals, and determine blood pressure information from the time difference, and an external output connector 12 (figs. 1, 4, 5, and 9; col. 7, line 54-col. 9, line 30 of Hosaka). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the blood pressure monitoring device of Hosaka as the blood pressure sensors in the device of Goldberg, as it would merely be the substitution of one known means for sensing blood pressure for another. Goldberg, as modified by Hosaka lacks the optical module being part of a watch component.

Suga teaches a watch component comprising an optical module comprising an optical source 7 and optical detector 5 configured to generate a second time-dependent signal (figs. 1 & 3; col. 3, lines 44-69 of Suga). Therefore, it would have been obvious to one of ordinary skill in the art at the time to use the watch component of Suga as the

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optical component of Goldberg, as modified, since Goldberg teaches using an optical module and Suga teaches the details of such a module.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia C. Mallari whose telephone number is (571) 272-4729. The examiner can normally be reached on Monday-Friday 10:00 am-6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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